

## CLAIMS

What is claimed is:

1. A distributed conferencing system, comprising:
  - a system communication bus;
  - a plurality of conferencing nodes connected to said system communication bus,each of said plurality of conferencing nodes comprising:
  - means for measuring a characteristic of each of a number of local participant input signals;
  - processing means, connected with said measuring means, for distinguishing significant signals from non-significant signals within said local participant input signals by comparison of said measured characteristic;
  - communication means, connected with said processing means and said system communication bus, for communicating said measured characteristic of each of said significant signals, to said plurality of conferencing nodes and for receiving said measured characteristic of each of said significant signals of remote participant input signals from said plurality of conferencing nodes;
  - comparison means for comparing said measured characteristic of each of said significant signals of said local participant input signals and said remote participant input signals.
2. A distributed conferencing system according to Claim 1, wherein:
  - said measured characteristic is the power level of said signal.
3. A distributed conferencing system according to claim 2, wherein:
  - said processing means identifies the local participant input signals having the highest power levels.

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4. A distributed conferencing system according to Claim 2, each of said nodes further comprising:

gain control means, interconnected with said processing means, for individually controlling a gain applied to each of said number of local participant input signals, after said power measuring means has measured the power on said number of participant input signals; and

summing means for summing said number of local participant input signals, after said gain control has been applied to said number of local participant input signals.

5. The conferencing system of claim 4, wherein:

said communication means also communicates said summed number of local participant input signals to all other of said plurality of conferencing nodes.

6. The conferencing system of claim 5, wherein:

said communication means further comprises a multiplexing means for multiplexing said summed number of local participant input signals and said measured power for a plurality of said number of participant input signals into a multiplexed node signal.

7. The conferencing system of claim 6, wherein:

said communication means further comprises a demultiplexing means for demultiplexing said multiplexed node signal generated by each of the other nodes of said plurality of conferencing nodes.

8. The conferencing system of claim 7, wherein:

said system communications bus is a time-division multiplexing bus interconnecting said communication means of each of said plurality of conferencing nodes that conveys said multiplexed node signal generated by each of said plurality of conferencing nodes.

9. The conferencing system of claim 5, wherein:

said processing means determines the relative power levels of each said remote participant input signals from said plurality of conferencing nodes.

10. The conferencing system of claim 1, wherein:

at each of said plurality of conferencing nodes, said processing means identifies a number, N, of said significant participant input signals from said local participant signals.

11. The conferencing system of claim 10, wherein:

at each of said plurality of conferencing nodes, said processing means identifies a number, N, of said significant participant input signals from said local participant signals and said participant signals from said plurality of conferencing nodes.

12. The conferencing system of claim 10, wherein:

at each of said plurality of conferencing nodes, said processing means causes said gain control means to apply a gain level that effectively mutes each of said number of local participant input signals that is not one of said number, N.

13. The conferencing system of claim 11, wherein:

at each of said plurality of conferencing nodes, said processing means causes said gain control means to apply a gain level that effectively mutes each of said number of

local participant input signals that is not one of said number, N.

14. The conferencing system of claim 12, wherein:

at each of said plurality of conferencing nodes, said plurality of local participant input signals having their measured power communicated to all other of said plurality of conferencing nodes are said local participant input signals having the greatest power levels.

15. The conferencing system of claim 14, wherein:

said number, N, of local participant input signals from said plurality of conferencing nodes having the greatest power levels is set equal to the number of said plurality of remote participant input signals having their measured power communicated to all other of said plurality of conferencing nodes.

16. The conferencing system of claim 10, wherein:

said number, N, is in the range from two to four.

17. The conferencing system of claim 11, wherein:

said number, N, is in the range from two to four.

18. The conferencing system of claim 10, wherein:

said number, N, is three.

19. The conferencing system of claim 11, wherein:

said number, N, is three.

20. The conferencing system of claim 4, further comprising:

combining means, interconnected with said communication means and said gain control means, for combining said number of remote participant input signals from each of said plurality of conferencing nodes, after said gain control has been applied to said number of local participant input signals; and

outputting means for outputting said combined number of participant input signals from each of said plurality of conferencing nodes to each of a number of local conference participants creating said local participant input signals, wherein

said outputting means effectively mutes the contribution of each participant's own input signal, within said combined number of participant input signals, before outputting said combined number of participant input signals to said number of conference participants.

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